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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,698	06/26/2003	George Edmond Berbari	NEBULA 1	5040

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EXAMINER	
CAMPBELL, KELLY E	
ART UNIT	**PAPER NUMBER**
3618	

DATE MAILED: 02/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/606,698	BERBARI, GEORGE EDMOND	
	Examiner	Art Unit	
	Kelly E Campbell	3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-8 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-8 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 11/24/2003.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rowlett (US 4,233,858) in view Weaver (US 5,765,656) and Furukawa et al (US 6,392,380).

Rowlett teaches a vehicle having a flywheel drive system comprising: a flywheel (212) that is connected to a vehicle drive system via sheaves (14) and that provides energy to drive the vehicle; an electric motor (216, see column 4, line 58 and column 6) that is connected to and that causes the rotation of the flywheel (212); a charger assembly (417) and batteries (414).

Rowlett does not teach a charger assembly with two batteries, charger battery and alternator configuration.

Weaver teaches a hybrid vehicle including a battery arrangement for powering the drive wheel via transmission (24) including:

two drive batteries (26,28), each electrically connectable to the electric motor (20) and the charger assembly (54); wherein when one of the drive batteries is electrically connected to the electric motor, the other drive battery is electrically connected to the charger assembly, see Column 5, lines 31-45;

wherein the charger assembly comprises a charger (54), an inverter (64), alternator (52), charger battery, and an auxiliary alternator (52) connected to the vehicle drive system; and further wherein the battery charging alternator is electrically connected to the battery control regulator (34) for energizing the batteries (26,28) and the batteries in turn, power the inverter (64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the flywheel assembly taught by Rowlett with the charging assembly taught by Weaver, in order to minimize overcharging of the batteries and better distribute the frequency and length of charge through the battery banks;

further comprising a switch (30) electrically connected to the electric motor (20), the charger assembly (34), and the two drive batteries (26,28) or banks of batteries connected in series; wherein the switch is adapted to change electrical connection from a first state where first drive battery and electric motor are connected, and second drive battery and charger assembly are connected to a second state where first drive battery and charger assembly are connected, and second drive battery and electric motor are connected, see Column 5, lines 31-45, wherein the switch (30) is manually controlled.

Rowlett modified by Weaver al does not teach a separate charge battery configuration.

Furukawa et al teaches a hybrid power supply arrangement including:

a drive battery (2), a charger (7) and a charging battery (5)

the charger battery is electrically connected to and powers the inverter internal to the charger (7), see column 4, line 63, the inverter is electrically connected to and

powers the charger (7), and the charger is electrically connected to and recharges the drive battery (2) that is not connected to the electric motor (3).

It would have been obvious to open of ordinary skill in the art at the time the invention was made to combine the flywheel drive system with an alternator-charger assembly taught by Rowlett modified by Weaver, to include a charger battery as taught by Furukawa et al since Furukawa teaches that an alternator alone is inefficient for charging the vehicle battery and provides teaching that a charge battery included in the charging circuit for the vehicle will require less output current and provides improved efficiency, see Column 5, lines 45-67.

With regards to claim 6, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the weight of the flywheel taught by Rowlett, to be in the range of about five percent to about ten percent of the weight of the vehicle, since for increased power capability, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller, 105 USPQ 233.*

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Strohlein teaches a vehicle power system. Fiala teaches an internal combustion engine flywheel assembly. Beck teaches a flywheel assisted drive system. Barnard teaches an electric vehicle utilizing a flywheel assembly. Marshall

teaches a flywheel assembly for a motor vehicle. Kurita teaches a battery and vehicle drive system. Nakanishi teaches an electric vehicle and battery charger configuration. Gosebruch et al teaches an apparatus for uninterruptedly supply power from a flywheel configuration. Kumar teaches a power management system for a hybrid vehicle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly E Campbell whose telephone number is (703) 605-4264. The examiner can normally be reached on 9:00-5:30 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Ellis can be reached on (703) 305-0168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KEC

CHRISTOPHER P. ELLIS